

ABSTRACT

Background

Diabetes Mellitus has become a global epidemic affecting a large group of Indian population . Diabetic Peripheral Neuropathy is the commonest symptomatic complication of Diabetes . In recent studies it is being estimated that the prevalence of Peripheral Neuropathy is equally distributed in Diabetic and pre-diabetic population . Since peripheral neuropathy has devastating consequences on the morbidity and mortality of a diabetic individual as well as in those who are at risk to develop diabetes it is prudent to screen for the presence of peripheral neuropathy and its risk factors at an early stage.

Aim

To estimate the prevalence of Diabetic Peripheral Neuropathy in subjects with Pre-Diabetes .

To Study the distribution of risk factors for Diabetic Peripheral Neuropathy in Pre-diabetic subjects.

Methods

After prior Institutional Ethical clearance and obtaining informed consent, the participants satisfying inclusion criteria were asked detailed history and clinical examination was performed according to the well designed proforma cited below . Venous blood was drawn for fasting blood glucose levels, HbA1c levels , serum cholesterol and triglycerides. Height , weight and waist circumference of the

individual patient was measured and BMI was calculated . Presence of peripheral neuropathy was assessed by validated MNSI (Michigan Neuropathy Screening Instrument) scoring system.

Results

The mean age of the study subjects was 56.3 years . Most of the patients belonged to the age group 50-59 years. Out of 216 cases , 110 (50.93%) were male and 106 (49.07%) were female. Male to female ratio was 1.04 :1. The prevalence of Diabetic peripheral neuropathy in the study population was 28.24%. The prevalence of Systemic Hypertension in subjects with DPN was 52.5 %. The average BMI of the study population was 24.2 %. The average HbA1c of the study population was 5.8 %. Most of the subjects with DPN belonged to the group where the HbA1c levels were between 6.1-6.4 %. The prevalence of DPN subjects with HbA1c 6.1 was 59.02 %. The prevalence of hypercholesterolemia in the study population was 22.2 percent. Mean cholesterol level of the subjects with peripheral neuropathy was 214.75 mg/dl. The prevalence of hypercholesterolemia in patients with Peripheral Neuropathy was 63.9 percent. The prevalence of hypertriglyceridemia in the study population was 14.4 % . The mean TGL of the study population was 135.11 mg/dl. Mean TGL levels in subjects with DPN was 146.95 mg/dl and in subjects without DPN was 130.45 mg/dl. The prevalence of hypertriglyceridemia in peripheral neuropathy was 37.7 percent. The prevalence of smokers in the study population was 16.2 % . The prevalence of smokers in DPN was 27.87%. The average waist circumference of the study population was 82.58 cms. The prevalence of abnormal waist circumference in subjects with peripheral neuropathy was 52.46 %

Conclusion

The prevalence of DPN in the study population was 28.24 %. The prevalence of risk factors such as increased age, hypertension, smoking , obesity, dyslipidemia, higher HbA1c levels were significantly higher in pre-diabetic population who had peripheral neuropathy. Since the prevalence of peripheral neuropathy is high even in pre-diabetic population , my study emphasises the need for the early diagnosis of peripheral neuropathy in people who are at high risk for developing diabetes and to screen for the possible associated risk factors